

SHAPOVALOV, Mikhail Antonovich

"Experimental Data on a Blast Furnace Run on Blast Enriched with Oxygen," Kislored, No. 1, 1944. Cand. Tech. Sci., Engr.

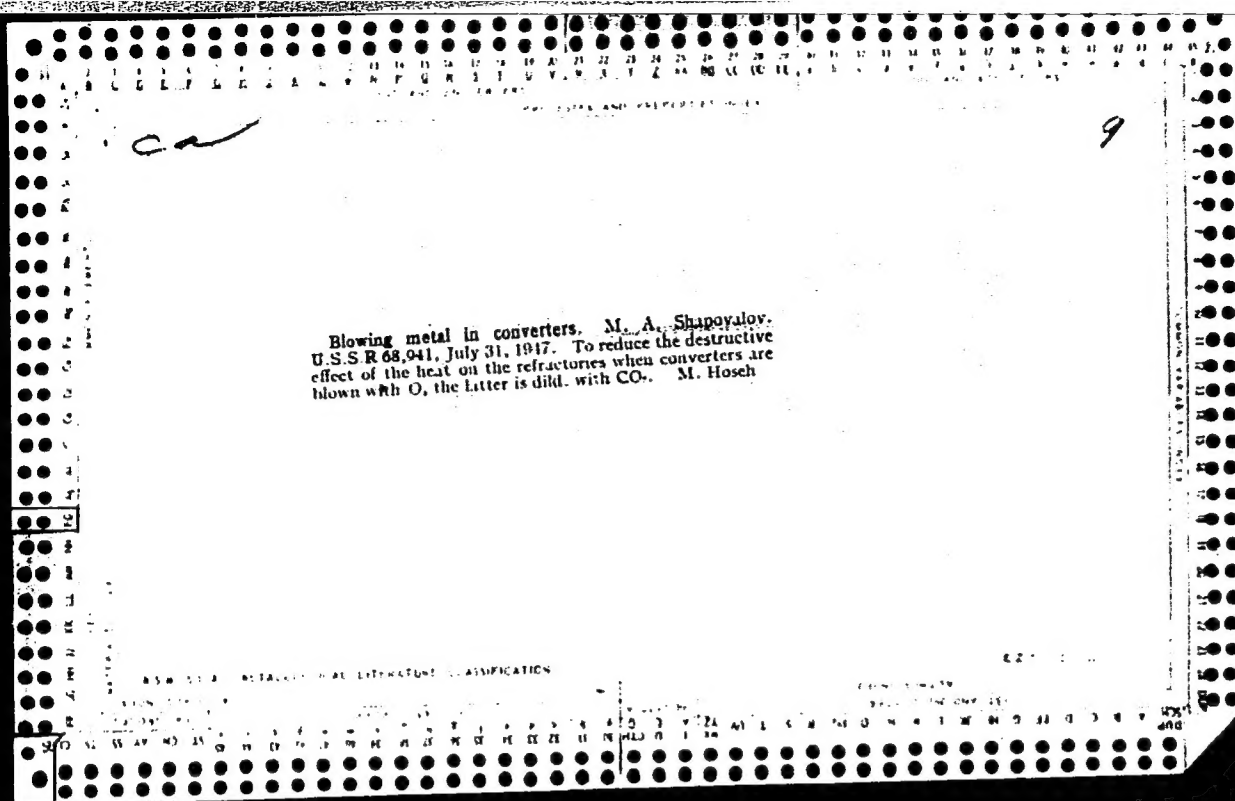
Performance of a blast furnace with oxygen blow  
M. A. Shapovalov. *Kisloved* 1944, No. 1, 17-31. A  
discussion on the application of an O-enriched blow for the  
production of ferro-alloys, open-hearth pig, and the  
utilization of the slags from these processes for the pro-  
duction of cement. Preliminary tests with O blow were  
carried out in a blast furnace having a vol. of 218 cu. m.  
The O content in the blow varied between 25-27 and 29-  
33%. With an O content of 25-27% the furnace ran  
smoothly. The output increased from 100 to 160-80 tons  
per day and coke consumption decreased from 2.3 to 2.0  
tons per ton output. The temp. of the top gases was 580-  
450°. As the O content increased to 33% the charge was  
hanging-up and the gas pressure rose. It was readily  
remedied by lowering the temp. of the blast from 800 to  
650°. In spite of these difficulties the output of the  
furnace rose to 210-30 tons per day and coke consumption  
decreased to 1.8 tons per ton of metal. With the use of O  
the temp. along the height of the furnace drops consider-  
ably. This causes retarded slagging. It can be remedied  
by making the boshes shorter (1.5-2.0 m) and increasing  
their angle. Also when O is used, the slag should be  
adjusted accordingly. When 30-33% of O was used, the  
compn. of the top gases was CO 42-44, CO<sub>2</sub> 1.3, H<sub>2</sub> 1.5,  
2.0 CH<sub>4</sub>, 0.3-0.8%, and the rest N<sub>2</sub>. Suggestions are made  
for the utilization of this gas. The campaign log of the  
furnace for the time it worked with a O-contg. blow is  
given.

M. Hosh

AS 4-51 A METALLURGICAL LITERATURE CLASSIFICATION

SHAPOVALOV, P. A.

"A Manufacture of Steel by Blasting of Molten Cast Iron with Oxygen," *ibid.*, No. 1, 1945.  
Cand. Tech. Sci., Chief Engineer, Bureau of Application of Oxygen into Black Metals, Sci.  
Commissariate of Black Metalurgy, SSSR, -1945-.





SHAPOVALOV, M. A.

"Letter to the Editor," Vest. Svyazi, No.7, p. 17, 1953

Chief, Labor and Wage Section, Khabarovsk Kray Communications Admin.

Translation No. 543, 27 Apr 56

137-1958-3-4736

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 3, p 38 (USSR)

AUTHOR: Shapovalov, M. A.

TITLE: Means of Increasing the Productivity of Blast Furnaces and of  
Decreasing the Coke Consumption (Puti uvelicheniya  
proizvoditel'nosti domennykh pechey i snizheniya raskhoda koksa)

PERIODICAL: V sb.: Issled. domennogo protsessa Moscow, AN SSSR, 1957,  
pp 55-84

ABSTRACT: The author examines problems dealing with methods designed to ensure an even descent of charge examined together with problems of maximal development of indirect reduction of ores in blast furnaces in the process of forced smelting. In order to increase the gas permeability of the column of charge material in the blast furnace, it is recommended that all fines (less than 7-10 mm) be removed from the ore and from the agglomerate, and that lumps > 30-40 mm be crushed and segregated according to size. In order to achieve optimal fluidity and fusibility of the primary slags, the alkalinity of the fluxed sinter should also be carefully selected. The increase in smelting intensity is also significantly dependent on increased gas pressures in the furnace.

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137-1958-3-4736

Means of Increasing the Productivity of Blast Furnaces (cont.)

increased number of tuyeres, and improved design of the blast furnace contour. The problem of minimum specific coke consumption in blast furnaces is examined together with possible means of its realization

Ye V.

Card 2/2



SHAPORNIKOV, M. A.

18(0)

PHASE I BOOK EXPLANATION

SOV/1728

Akademicheskaya kniga SSSR. Institut metallurgii  
Sovremennyye problemy metallurgii (Modern Problems in Metallurgy)  
Moscow, Izdatel'stvo AN SSSR, 1958. 640 p. 5,000 copies printed.  
Reep. Ed.: A.M. Samarin, Corresponding Member, USSR Academy of  
Sciences; Eds. of Publishing House: V.S. Rukhovich, and  
A.N. Durnov; Tech. Ed.: T.V. Polyakova.

PURPOSE: This book is intended for scientific and technical per-  
sonnel in the field of metallurgy.

COVERAGE: This is a collection of articles on certain aspects of  
Soviet metallurgy. The book is dedicated to Academician  
Ivan Pavlovich Mordukhai-Boltovskoy on the occasion of his 75th birthday. The  
book is divided into seven parts. The first part consists of  
two articles presenting a brief account of the biography and  
professional activity of the Soviet metallurgist. It includes an  
article by John Chipman, Nicholas Grant, and John Elliott (M.I.T.,  
USA) describing their meeting with Mordukhai-Boltovskoy and also his  
visit to the United States. The second part consists of three  
articles and deals with raw materials and fuels for the Soviet  
metallurgical industry. The third part presents the major  
sections of the book. It consists of 25 articles dealing with  
the various aspects of the metallurgy of pig iron and steel.  
The fourth part consists of two articles treating the metal-  
lurgy of nonferrous metals. The fifth part consists of three  
articles on the forming of metals. The sixth part consists of  
eight articles discussing certain aspects of physical metallur-  
gy. The last part deals with general problems in the field  
of metallurgy. References are given after each article. No  
personalities are mentioned.

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Modern Problems in Metallurgy	SOV/1728
METALLURGY OF PIG IRON AND STEEL	
- Sam, A.M. [Doctor of Technical Sciences, Leningrad Poly- technic Institute]. Application of Combination Blast in Blast-Furnace Smelting	61
- Shapornikov, M.A. [Candidate of Technical Sciences, Central Scientific Research Institute of Ferrous Metallurgy, M.A. Goss [Candidate of Technical Sciences, Pig Iron Pro- duction Institute, AN SSSR]. Future Prospects for Pig Iron Pro- duction with the Application of Oxygen Blast (90-95% O <sub>2</sub> )	96
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SHAPOVALOV, M.A.

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LEONIDOV, N.K.

25(5)

FROM 1 BOOK EXPLANATION NOV/1997

Abstracts and summaries. Russian language. Technical information.

Metallography USSR, 1987-1997, t. 1 (Metallurgy of the USSR, 1987 - 1997, Vol. 1) Moscow, Metallurgizdat, 1998. 745 p. 3,000 copies printed.

Ed. (title page): I. P. Martin, Academician; Ed. (inside book): G. V. Popova; Prof. M. I. O. O. Baber.

PURPOSE: The book is intended for scientific workers and engineers in metallurgical plants and in the machine-building industry. It may also be used by students in advanced courses in metallurgical vuzs.

CONTENT: This collection of articles covers extensively practical and theoretical developments in Soviet metallurgy during the last 40 years. The material deals with the discovery and development of the major ore deposits and the growth of the metal industry in various parts of European and Asiatic USSR. Research institutes, laboratories, their location, and the names of the scientists and engineers involved are listed. Many papers contain so many references and names of various personalities that it was considered beyond the scope of the coverage of each article to list them. The authors claim that the processes, methods and theories described in this book reflect the most recent developments in Soviet metallurgy.

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Metallurgy of the USSR (cont.)

NOV/1997

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Zaslavskiy, V.Y. Basic trends in boosting blast furnace production. The subject discussed in this paper is the relative efficiency of blast furnaces expressed in cubic meters of blast furnace volume per ton of metal produced per unit of time. It is claimed that due to intensive investigations of combustion processes and chemical reactions in the furnace, and in consequence, better preparation of the charge, Soviet blast furnaces have reached new peaks of efficiency and productivity. There are 10 Soviet references.

Barin, I.P. and M.A. Shapovalov. Using oxygen-enriched blowing in blast furnaces.

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Experiments were conducted with oxygen-enriched blowing to increase the output of blast furnaces. The values obtained were compared to those published by US and Belgian sources. Depending on the ore and the cast iron to be produced, oxygen enrichment varied from 25 to 50 percent. In some instances savings of coke were achieved. The text contains numerous graphs and diagrams dealing with experimental work on enriched blowing. There are 16 references of which 15 are Soviet and 1 German.

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AUTHOR: Shapovalov, M. A.

133-58-5-1/31

TITLE: Blowing . . . Reducing Gases Into the Blast Furnace Hearth  
(O vduvaniy vosstanovitel'nykh gazov v gorn domenny  
pechi)

PERIODICAL: Stal', 1958, Nr 5, pp 385-390 (USSR)

ABSTRACT: The problem of blowing in reducing gases (coke oven and natural gas) into the blast furnace hearth is discussed. It is pointed out that with increasing blast temperature up to 1100°C, decreasing content of silicon (0.5%) and manganese (0.3%) in pig iron and further improvement in the preparation of burden materials a considerable decrease in carbon, required as a source of heat, can be obtained. However, with a low carbon consumption the carbon monoxide formed may be insufficient for the attainment of a maximum degree of indirect reduction in the stack and thus an increase in coke rate will be necessary. If the furnace is supplied with CO, preferably in a mixture with hydrogen from an external source, then the coke rate will be determined only by the heat requirements of the furnace and thus can be substantially reduced. The dependence of the consumption of gasified

Card 1/3 carbon per ton of pig on the percentage of indirect

133-58-5-1/31

Blowing . Reducing Gases Into the Blast Furnace Hearth

reduction, blast temperature and  $CO/CO_2$  ratio in the top gas is shown in Fig.1 and Table 1. The most suitable place of introduction of the reducing gas is through tuyeres (Fig.2). Blowing in coke oven gas into the hearth of a furnace operating on normal air blast does not lead to a substantial enrichment of furnace gas with carbon monoxide and hydrogen due to a large amount of nitrogen in the hearth gas (Fig.7a). Therefore, an addition of coke oven gas to blast will give only economy in coke without alteration in the furnace output. With simultaneous oxygen enrichment of blast (Fig.7b), the hearth gas will be considerably enriched in carbon monoxide and hydrogen and the total amount of the hearth gas will be smaller than with atmospheric blast, thus a decrease in coke rate and an increase in the driving rate are possible. Heat balances for smelting pig with 30% oxygen enriched blast and blowing in either coke oven or natural gas are shown in Table 2 (blast contains 30% of oxygen, 1.5 of moisture, blast temperature  $850^{\circ}C$ , top gas temperature  $200^{\circ}C$ , % indirect reduction 60%, slag volume 0.7 t/t and pig composition as above. Heat balances per 1 kg of

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133-58-5-1/31

Blowing      Reducing Gases Into the Blast Furnace Hearth

pig at blast temperature 1100°C, degree of indirect reduction 70%, for atmospheric 25% and 30% oxygen enriched blasts and additions of natural gas are compared in Table 3. The ratio of the yield of the hearth gas to the total heat capacity of corresponding burden, assuming 40% direct reduction and with blowing in coke oven gas would be 3.54 whilst this ratio at present the Domnovat (Sweden) furnace is 4.4. The above comparison indicates that on blowing in coke oven gas and with a 30% oxygen enrichment this ratio may be insufficient. Therefore, to improve the heat balance charging of hot sinter will be necessary. There are 3 tables, 9 figures and 7 references, 4 of which are Soviet, 1 German, 2 English.

ASSOCIATION: TsNIICbM

Card 3/3

Sov/133/58-9-3/29

AUTHOR: Shapovalov, M. A. (Cand. Technical Sciences)

TITLE: Technical Efficiency of Size Grading of Burden Materials  
(Tekhnicheskaya effektivnost' rassortirovki domennoy shlyakhty po krupnosti)

PERIODICAL: Stal', 1958, Nr 9, pp 780-781 (USSR)

ABSTRACT: The efficiency of utilization of the reducing and thermal capacity of the ascending gas in blast furnaces is discussed. It is pointed out that by a more uniform distribution of the gas stream in the furnace stack a considerable decrease in the coke rate can be obtained due to an increase in the proportion of indirect reduction. As the most efficient method of improvement in the gas distribution, screening off of the -6 mm fraction and size grading of the burden is recommended. Pressure drop across a bed of sinter of various size distribution is shown in Fig.1. There is 1 figure and 4 references; 3 of the references are Soviet and 1 is English.

ASSOCIATION: TsNIICHM

Card 1/1

AUTHOR: Shapovalov, M. A., Candidate of Technical Sciences

TITLE: Oxygen in Blast Furnace Casting  
(Kislород v domennoy plavke)

PERIODICAL: Kislород, 1958, № 4, pp. 1-11. (USSR)

ABSTRACT: This paper deals with processes of iron casting by using oxygen, and especially with the advantages offered by the process of air blasting enriched with oxygen for the purpose of accelerating the process. In order to prevent layers of iron ore from getting stuck in the blast furnace (at the ~~Novo-Tul'skiy~~ metallurgical plant) furnaces with a conical profile and blowers having an increased moisture supply are used. Table 1 compares the output of furnace Nr 1 at ~~Novo-Tul'skiy~~ with an American blast furnace having a volume of 1120 m<sup>3</sup>. The chapter: "The Casting of Ferro-Alloys" describes the advantages offered by blasting with oxygen as being of great importance. This is illustrated on the basis of a table in which results obtained by a blast furnace (Nr 5) of the Voroshilov works by means of ordinary air blasting and those obtained by blast furnace Nr 1 at ~~Novo-Tul'skiy~~ by air blasting with

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Oxygen in Blast Furnace Casting

SOV/67-58-4-1/29

oxygen are compared (Table 1). The saving of time and coke is particularly marked in the latter case. In the chapter: "Iron Foundry in the Case of Blasting With a High Content of Oxygen" it is said that a high degree of enrichment with oxygen (30-35%) alone is not advisable, but that good results can be obtained by means of a simultaneous supply of regenerating gas (coke gas or natural gas with a high content of hydrogen). In this case large quantities of coke can be saved and production figures of the blast furnace can be considerably increased. There are 12 figures, 2 tables, and 15 references, which are Soviet.

Card 2/2

1. Iron--Production      2. Iron alloys--Casting      3. Blast  
furnaces--Operation      4. Oxygen--Applications



SHAPOVALOV, M.A.

Blowing reducing gases into a blast furnace hearth [with summary  
in English]. Stal' 18 no.5:385-390 My '58. (MIRA 11:6)

1. Tsentral'nyy nauchno-issledovatel'skiy institut chernoy metal-  
lurgii.

(Blast furnaces)

8 APOYALOV, V.A., Doc Tech Sci -- (diss) "Intensification of metallurgic processes by means of rational proportion of the furnace charge and oxygen-enriched <sup>blast</sup>blowing <sup>combined</sup> with reduction gases."

1959. 33 pp with graphs (Glavniiproekt under Gosplan USSR. Central Sci Res Inst of Ferrous Metallurgy). 200 copies, printed on ~~reproduction~~ <sup>reproduction</sup> apparatus. Bibliography: pp 32-33 (32 titles) (RU, 32-52, 116)

SHAPOVALOV M.A.

18(5) R.3

PHASE I BOOK EXPLOITATION

SOV/2812

Akademiya nauk SSSR. Institut metallurgii

Vyplavka ferrosplavov v domennoy pechi na dut'ye, obogashchennom kislorodom (Blast Furnace Production of Ferroalloys With Oxygen-enriched Blast) Moscow, Izd-vo AN SSSR, 1959. 142 p. Errata slip inserted. 2,700 copies printed.

Sponsoring Agency: Tsentral'nyy nauchno-issledovatel'skiy institut chernoy metallurgii.

Resp. Ed.: L. M. Tsylev, Doctor of Technical Sciences, Professor;  
Ed. of Publishing House: A. N. Chernov; Tech. Ed.: Yu. V. Rykina.

PURPOSE: This collection of articles is intended for scientific and industrial personnel working on the introduction of intensified blast-furnace production of ferroalloys. It may also be useful to students of institutions of higher technical education.

COVERAGE: The articles in this collection present the results of investigations of blast furnace processes in the experimental production of ferroalloys, conducted at the Novo-Tul'skiy metallurgicheskiy zavod (Novo-Tul'skiy Metallurgical Plant). The

Card 1/4

Blast Furnace Production (Cont.)

SOV/2812

first article discusses recent achievements in the production of ferroalloys in the Soviet Union. The other articles are concerned with such specific questions as the effect of oxygen-enriched blast on coke consumption, the connection between bridging of the charge and slag composition, analysis of reduction processes, slag formation, and viscosity of blast furnace slags. On the basis of mineralogical study of materials, conclusions are drawn concerning the limits of distribution of solid, plastic, and liquid phases of materials at points along the height of the blast furnace shaft. The effect of the composition of charge materials and melting conditions on the nature of phase transformations is established. Measures are discussed for reducing dust losses and improving conditions for cleaning waste gas in the blast furnace production of ferroalloys. No personalities are mentioned. References follow each article.

TABLE OF CONTENTS:

Bardin, I. P. Application of Oxygen in Ferrous Metallurgy 3

The author briefly outlines the developments in the application of oxygen blast in pig-iron and ferroalloy production in the USSR, beginning with the first experiments in 1932. Application on an industrial scale is still limited.

Card 2/4

Blast Furnace Production (Cont.)

SOV/2812

Tsylev, L. M. Primary Slag Formation in Blast Furnaces	8
Zhilo, N. L, and L. M. Tsylev. On Reduction Processes, Slag Formation, and the Viscosity of Primary and Final Blast Furnace Slags in the Production of Ferroalloys With Oxygen-enriched Blast	17
Rudneva, A. V. Phase Transformations in the Blast Furnace Production of Ferroalloys	38
Shapovalov, M. A. Analysis of the Blast Furnace Production of Ferroalloys With Oxygen-enriched Blast	79

According to the author, extensive tests showed the use of the oxygen-enriched blast to be very effective. Productivity of the furnace was increased 95 percent for ferromanganese and 53 percent for ferrosilicon. Consumption of coke was reduced by 290 kg. for each ton of ferromanganese produced, and by 200 kg. per ton of ferrosilicon (in comparison with figures for a furnace at an unidentified plant). The tests also demonstrated the feasibility of making silicomanganese in this

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Blast Furnace Production (Cont.)

SOV/2812

manner. Possibilities are said to exist for reducing the cost of oxygen by building high-output oxygen stations with steam-driven air compressors.

Gess-de-Kal've, B. A. Measures for Reducing Dust Losses and for Improving Conditions for Cleaning Waste Gas in the Blast Furnace Production of Ferroalloys

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AVAILABLE: Library of Congress

Card 4/4

1-15-60  
GO/ec

AUTHOR: Shapovalov, M.A., Candidate of Technical Sciences <sup>SOV/133-59-5-3/31</sup>  
TITLE: On the Causes of Burden Hanging During the Operation of  
Blast Furnaces with Oxygen-enriched Blast (O prichinakh  
zavisaniya shikhty pri domennoy plavke na obogashchennom  
dut'ye)

PERIODICAL: Stal', 1959, Nr 5, pp 395 - 396 (USSR)

ABSTRACT: These are remarks on the previously published paper on  
the subject by S.K. Trakalo (Stal', 1958, Nr 6). The  
original author stated that the hanging of the burden  
in the blast furnace during experimental operation on  
oxygen-enriched blast (Novo-Tul'skiy metallurgicheskiy  
zavod - Novo-Tul'skiy Metallurgical Works) was caused by  
an increase in the gas velocity on the furnace periphery  
and the transfer of fines from the peripheral zone to the  
central zone of the furnace due to a high velocity of peri-  
pheral gas. The present author considers that the hanging  
was caused by the formation of a low-permeability layer of  
burden above the tuyere plane due to lowering of the slag  
formation zone and condensation of SiO and SiO<sub>2</sub> vapour  
(volatilised from ash on the surface of burning coke lumps).

Card1/2

SOV/153-59-5-3/51

On the Causes of Burden Hanging During the Operation of Blast  
Furnaces with Oxygen-enriched Blast

In order to obtain a uniform burden descent when operating with an oxygen-enriched blast it is necessary (in addition to an appropriate size distribution of burden materials): 1) to improve the furnace profile by decreasing the height of the bosh; 2) to increase the number of tuyeres decreasing the distance between the tuyere axis to 1 m and, 3) to facilitate conditions of the formation of primary slag by decreasing its melting temperature and redistribution of temperatures along the height of the hearth and the bosh. It would be advantageous to blow into the hearth through the tuyeres powdered solid or liquid fuel and crushed lime. There are 4 figures and 4 Soviet references.

ASSOCIATION: TsNIICBM

Card 2/2



SHAPOVALOV, M.A.

Some problems of blast furnace smelting with use of natural  
gas. Metallurg 5 no. 4-6 Ag '60. (MIRA 13:7)

1. Tsentral'nyy nauchno-issledovatel'skiy institut chernoy  
metallurgii.

(Blast furnaces--Equipment and supplies)

KORSHAK, A. A. (Moscow); SHAPVALOV, M. A., *inzhener* raboty

Effect of changes in the composition of by-product gases on the  
aerodynamic parameters of gas flow in a blast furnace. Izv.  
N SSSR. Met. no. 4:8-10 51-A5 '65.

(MIRA 18:8)

ROZENBERG, A. M., inzh.; SHAPOVALOV, M. A.

Track measuring cars check the position of the track according to the plan. Put' i put. khoz. 6 no.10:32-34 '62.  
(MIRA 15:10)

1. Nachal'nik tekhnicheskogo otdela sluzhby puti, Donetskaya doroga (for Rozenberg). 2. Nachal'nik vagona-puteizmeritelya, Donetskaya doroga (for Shapovalov).

(Railroads—Track)

SHAPOVALOV, M.I.

Vvedenskii inhibition in spinal cord synapses. Fiziol. zh.  
SSSR Sechenov 49 no.6:685-694 '63 (MIRA 17:1)

1. From the Department of Pharmacology, First Medical Institute,  
Leningrad.

SHAPOVALOV, M.I.

TVERITIN, V.N., professor; SHAPOVALOV, M.I., inzhener.

Quality of coal mixtures prepared in coal mixing stations and  
with a grab crane. Vest.TSNII MPS 16 no.3:48-51 My '57. (MLRA 10:5)  
(Coal)

SHAPOVALOV, M.S.

Two-shift operation of mechanisms. Put' i put, khoz. 8 no.9:14  
'64. (MIRA 17:11)

SHAPOVALOV, M.Yu., kand.med.nauk; BRUSILOVSKIY, A.I. [Brusylovs'kiy, A.I.]

Histochemical study of phosphatase and polysaccharides in the human chorion. Ped., akush. i gin. 23 no.3:54-56 '61. (MIRA 15:4)

1. Kafedra gistologii i embriologii (zav. - prof. B.P.Khvatov)  
Krymskogo meditsinskogo instituta (direktor - dotsent S.I.Georgiyevskiy  
[Heorhiievs'kiy, S.I.]).  
(CHORION) (POLYSACCHARIDES) (PHOSPHATASE)

SHAPOVALOV, N.

. Gear box for the RZ-30 gear pump. Neftianik 9 no.9:33-34 S '64  
(MIRA 18:2)

1. Direktor Protokskoy neftebazy.



137-1957-12-23259

Translation from: Referativnyy zhurnal, Metallurgiya, 1957, Nr 12, p 58 (USSR)

AUTHOR: Shapovalov, N. A.

TITLE: Operational Experience With KU-80 Recovery Boilers (Opyt ekspluatatsii kotlov-utilizatorov KU-80)

PERIODICAL: V sb.: Kotly-utilizatory martenovsk. pechey. Moscow, Metallurgizdat 1957, pp 38-47

ABSTRACT: KU-80 boilers having average and maximum steam generating capacities of 8.3 t/hr and 12-13 t/hr, respectively, were installed at the "Azovstal'" plant to operate with open-hearth furnaces having a capacity of 350 t. Exhaust fans ensure the passage of all flue gases through the boilers by creating sufficient draft for the Martin furnaces. After 5-6 days' operation of the boiler, the temperature of the flue gases upstream of the exhaust increases from 200 to 300°, and the gas resistance increases from 110 to 140 mm H<sub>2</sub>O. The washing of the boiler by hand is very inconvenient and necessitates a one-day stoppage of the operation. With all the gases passing through the boiler the cost of the steam is 7 roubles per ton, which is half the cost of the steam generated at the TETs of the plant. The electrical energy consumption is 20-25 kw/t.

Ye. N.

Card 1/1

1. Boilers-Operation

SHAPOVALOV, N.A., inzh.; STANTSSEL', I.P., inzh.

Experience in operating recuperators of open-hearth furnaces and  
ways for improving their performance. Biul. TSNIICM no.22:20-24  
'57. (MIRA 11:5)

(Open-hearth furnaces)

SHAPOVALOV, N.A., inzh.

Utilization of secondary power resources in Ukrainian metallurgical plants. Trudy NTO chern. met. 20:54-61 '60. (MIRA 13:10)

1. Gosplan USSR.  
(Ukraine--Metallurgical plants)

KHRIPKO, Ye.G.; ADRIANOVA, V.P.; SHAPOVALOV, N.A.

Use of natural gas in ferrous metallurgy. Izv. vys. ucheb. zav.; chern.  
met. 5 no.9:5-9 '62. (MIRA 15:10)

(Iron and steel plants)

(Gas, Natural)

SEREDENKO, M.N.; SHAPOVALOV, N.A.; KALITA, N.S.

Potentialities for greater efficiency in the use of fuel and  
power resources in ferrous metallurgy. Stal' 22 no.9:  
850-852 S '62. (MIRA 15:11)

1. Institut ekonomiki AN UkrSSR i Ukrainskiy sovet narodnogo  
khozyaystva.

(Metallurgical furnaces--Combustion)  
(Heat regenerators).

SHAPOVALOV, N.A., inzh.; SHEPETUKHA, M.G., inzh.; DYMSHITS, M.A., inzh.;  
SOLODKIY, Z.P., inzh.

Organizing the repair and modernization of industrial equipment  
in the enterprises of the Ukrainian S.S.R. Mashnistroenie no.6:  
5-8 N-D '64 (MIRA 18:2)

POLFTAYEV, B.L.; RESHETNYAK, I.S.; SHAPOVALOV, N.A.; SOBKIN, A.A.

Using an accumulative ceramic recuperator in soaking pits at the Dzerzhinskii Plant. Stal' 24 no.2:180-181 F '64. 'MIRA 17:9'

1. Zavod im. Dzerzhinskogo i Dneprodzerzhinskiy metallurgicheskii zavod-vtuz.

ANDREYEVA, Vera Mikhaylovna; POPOV, K.M., doktor ekon. nauk, otv.  
red.; LAVRENT'YEVA, Ye.V., red.; ~~SHAPOVALOV, N.S., mlad.~~  
red.; MAL'CHEVSKIY, G.N., red.kart; ~~ARDANOV, N.S.,~~  
tekh. red.

[New Zealand; economic geography] Novaia Zelandiia; eko-  
nomiko-geograficheskaya kharakteristika. Moskva, Geografiz,  
1963. 334 p. (MIRA 16:8)  
(New Zealand--Economic geography)



ASOYAN, Nadezhda Samuilovna; POPOV, K.M., doktor ekon.nauk, prof.,  
otv.red.; GORNUNT, M.B., kand. geogr.nauk, otv.red.;  
DEREVYANKINA, L.A., red.; SHAPOVALOVA, N.S., mlad.  
red.; VAS'KINA, R.S., tekhn. red.

[Nigeria; characteristics of its economic geography]  
Nigeria; ekonomiko-geograficheskaya kharakteristika.  
Moskva, Geografiz, 1963. 270 p. (MIRA 17:2)

SHAPOVALOV, O.M.

Practice of using the induced polarization method. Razved. i okh.  
nedr 27 no.12:35-42 D '61. (MIRA 15:3)

1. Chelyabinskiy geologorazvedochnyy trest.  
(Chelyabinsk Province--Electric prospecting)

SHAPOVALOV, O.P., inzh.

Apparatus for automatic braking of trailers. ~~Match~~ sil'. hosp. 14  
no. 7:11 J1 '63. (MIRA 17:2)

SHAPOVALOV, P.B.

Reasons for silting of the Zhdanov Navigation Canal and measures for maintaining its depth. Trudy Okean. kom. 2:10-23 '57. (MLRA 10:9)

1. Upravleniye Azovmorputi.  
(Zhdanov Canal--Silt)

BRYUM, Abram Isayevich, inzh.; VORONOV, Petr Andreyevich, dotsent, kand. tekhn.nauk [deceased]; GINSBARG, Ruvim Izrailevich, kand.tekhn.nauk; KUTLEYNIKOV, Aleksandr Nikolayevich, inzh.; FEDOROV, Aleksandr Timofeyevich, prof. [deceased]; SHAPOVALOV, Petr Borisovich, inzh.; SHIKHIYEV, Fuad Maksimovich, dotsent, kand.tekhn.nauk; YAVLENSKIY, S.D., retsenzent; KRUGLENKO, N.K., retsenzent; MATLIN, G.M., kand. tekhn.nauk, red.; KSENOFONTOVA, Ye.F., red.izd-va; TIKHONOVA, Ye.A., tekhn.red.

[Sea ports and harbor facilities] Morskie porty i portovye sooruzhenia. Moskva, Izd-vo "Morskoi transport," 1959. 519 p.

(MIRA 12:12)

(Harbors)

SHAPOVALOV, P.B

Measures for combating silt deposits in sea channels. Mor.  
flot.19 no.4:18-20 Ap '59. (MIRA 12:6)

1. Nachal'nik normativno-issledovatel'skikh i' izyskatel'skikh  
rabot Azovo-Chernomorskogo upravleniya morskikh putey.  
(Harbors) (Shore protection)

SHAPOVALOV, Petr Borisovich; SMIRNOV, G.S., retsenzent;

SKOBEL'NIK, L.V., red. izd-va; LAVRENOVA, N.B.  
tekhn. red.

[Ship canals and channels and the buoyage of waterways]  
Morskije kanaly i navigatsionnaja obstanovka morskikh putei.  
Moskva, Izd-vo "Morskoi transport," 1960. 204 p. (MIRA 14:5)

(Waterways)

(Buoys)

ACC NR: AP606350

SOURCE CODE: UR/0381/66/01/004/0091/0093

AUTHORS: Arustamov, G. A.; Malyshko, I. M.; Danilov, V. P.; Shapovalov, P. F.

ORG: VNIIM, Kishinev

TITLE: New ultrasonic defectoscopes DUK-11IM and DUK-13IM for quality control of welded joints

SOURCE: Defektoskopiya, no. 4, 1966, 91-93

TOPIC TAGS: weld defect, ultrasonic inspection, ultrasonic flaw detection, defectoscope/ DUK-11IM defectoscope, DUK-13IM defectoscope

ABSTRACT: Defectoscope models DUK-11IM and DUK-13IM, developed by VNIIM for either portable or production operation in quality control of welded joints, are described. The model 11 is packaged in one unit (197 x 278 x 330 mm, 9.8 kg), while the model 13 consists of three interconnected units (the defectoscope - 110 x 233 x 274 mm, 4 kg; the power supply and the accumulator power supply - unspecified size). Both models operate at 1.8 and 2.5 Mc, have a minimum sensitivity of 2 mm<sup>2</sup> (equivalent area of defect), and have straight and slanted detector heads (to introduce waves at 30, 40, and 50°). The model 11 has a maximum penetration of 750 mm (in steel) and the model 13 has 600 mm. Both are equipped with electronic depth meters to pinpoint the defect coordinates. Schematic diagrams of the operational blocks of the defectoscopes are presented, and prices of the defectoscopes are given. Orig. art. has: 4 figures and 1 table.

SUB CODE: 13/ SUBM DATE: 14Mar66

Card 1/1

UDC: 620.179.16



SVETLOV, A.I., red.-sostavitel'. Prinimali uchastiye: GOLOVANOV, S.I.;  
GONOROVSKIY, P.A.; DOBRYNIN, M.I.; YERMILOV, Ye.M.; KORNEYEV, S.G.;  
KULAKOVA, A.K.; KURBATOV, I.A.; LYKOV, V.N.; MARTYNOV, B.F.;  
MILOSERDOV, S.S.; PESHKOV, V.P.; SOKHRANSKIY, A.V.; SMUROV, A.Ya.;  
TOPALOV, V.S.; SHAPOVALOV, P.F.; POPOV, V.N., tekhn.red.

[City on the TSna] Gorod na TSne. Tambov, Tambovskoe knizhnoe  
izd-vo, 1960. 174 p. (MIRA 14:4)  
(Tambov--Guidebooks)

SHAPOVALOV, P.G.

Crown remover. Stomatologiya 38 no.2:59-60 Ap '59 (MIRA 12:7)  
(DENTAL INSTRUMENTS AND APPARATUS)

BOROVIK, L.I.; PEDOS, I.F.; PIMENOV, A.F.; SHAPOVALOV, P.P.

Dependence of the sheet profile on the roll grooving. Metallurg  
9 no.7:28-29 J1 '64. (MIRA 17:8)

1. Novolipetskiy metallurgicheskiy zavod.

SHAPOVALOV, I. T.

Field Crops

Stubble sowing in the beet-seeding region. Korm. baza 3 no. 6, 1952

Monthly List of Russian Accessions, Library of Congress, September 1952. UNCLASSIFIED.

SHAPOVALOV, P. T.

"Green Crop Rotation in Zones of Sugar Beet Cultivation." (Dissertation for Degree of Candidate for Agricultural Sciences) Min Higher Education USSR, Ukrainian Order of Labor Red Banner Agricultural Academy, Kiev, 1955

SO: M-1036 28 Mar 56

SHAPOVALOV, P.T., kandidat sel'skokhozyaystvennykh nauk.

Creating a feed supply in the forested steppe of the Ukraine.  
Zemledelie 5 no.4:24-31 Ap '57. (MLBA 10:6)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut sakharnoy  
svekly.

(Ukraine--Feeding and feeding stuffs)

1 USSR  
2 Irrigated Fields. Fodder Grasses and Trees.  
3 USSR: Sov. Agr. Mach. No. 5, 1956, No. 1956  
4 Author : Chapovlov, P.Y.  
5 : Arranging Fodder Crop Rotations.

6 S. 71.1: Sov. Vsesoyuznoye, 1956, No. 6, 7-11

7 ABSTRACT : No abstract

8 CARD : 1/2

KUTSAK, I.M. agronom; ZELINSKIY . A.A. [Zelins'kiy, A.A.]; SHAPOVALOV, P.T.;  
KLYAVIR, I.Yu.

Over-all mechanization of sugar beet growing. Mekh. sil'. hosp. 9  
no.1:18-21 Ja '58. (MIRA 11:2)

1. Kolgosp im. Chapayeva, Zhashkivs'kogo rayonu, Cherkas'koi oblasti  
(for Kutsak). 2. Vsesoyuzniy nauchno-dosledniy institut tsukrovikh  
biryakiv (for Zelins'kiy, Shapovalov, Klyavir).  
(Sugar beets) (Agricultural machinery)



STOGNIY, I.I.; BOVSUNOVSKIY, A.I.; SHAPOVALOV, P.T., nauchnyy sotrudnik;  
KUDARENKO, F.F., nauchnyy sotrudnik; ZELINSKIY, A.A., nauchnyy sotrudnik;  
SOROCHINSKAYA, N.F., nauchnyy sotrudnik

Farm management system on sugar beet growing collective farms.  
Zemledelie ? no.12:21-29 D '59. (MIRA 13:3)

1. Predsedatel' kolkhoza imeni Lenina Zhashkovskogo rayona (for Stogniy). 2. Inspektsiya po sel'skomi khozyaystvu Zhashkovskogo rayona (for Bovsunovskiy). 3. Vsesoyuznyy nauchno-issledovatel'skiy institut sakharnoy svekly (for Shapovalov, Kudarenko Zelinskiy, Sorochinskaya).  
(Sugar beets) (Collective farms)

SHAPOVALOV, P.T.; ZELINSKIY, A.A.; KUTSURUBA, N.V.; KUDARENKO, F.F.;  
GRIGOR'YEVA, A.I., red.; DEYEVA, V.M., tekhn. red.

[New technology for cultivating monospermous sugar beets] Voz-  
delyvanie odnosemiannoi sakharnoi svekly po novoi tekhnologii.  
Moskva, Sel'khozizdat, 1962. 94 p. (MIRA 15:12)  
(Sugar beets)

BOVSUNOVSKIY, A.I.; SHAPOVALOV, P.T., kand. sel'skokh. nauk

Intensive system of agriculture in action. Zemledelie 25  
no.6:13-20 Je '63. (MIRA 16:7)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut sakharnoy  
svekly. 2. Glavnyy agronom Zhashkovskogo proizvodstvennogo  
upravleniya, Cherkasskaya oblast' (for Bovsunovskiy).  
(Zhashkov region—Agriculture)

BUZANOV, I.F.; SAMBUROV, V.I.; YEMETS, G.M.; ORLOVSKIY, N.I.;  
NEGOVSKIY, N.A.; FEDOROV, A.I.; GREKOV, M.A.; KURBATOV,  
S.T.; MEL'NICHUK, A.N.; TONKAL', Ye.A.; GORNAYA, V.Ya.;  
ROZHDESTVENSKIY, I.G.; SIDOROV, A.A.; KUDARENKO, F.F.;  
BROVKINA, Ye.A.; GELLER, I.A.; DOBROTVORTSEVA, A.V.;  
VARSHAVSKIY, B.Ya.; KUTSURUBA, N.V.; KUZ'MICH, S.I.;  
PRESNYAKOV, P.V.; USHAKOV, A.F.; SHEVCHENKO, V.N.;  
KHUCHUA, K.N.; PETRUKHA, Ye.I.; POZHAR, Z.A.; SHAPOVALOV,  
P.T.; AREF'YEV, T.I.; GRIGOR'YEVA, A.I., red.; BALLOD,  
A.I., tekhn. red.

[Sugar beets] Sakharnaia svekla. Moskva, Sel'khozizdat,  
1963. 487 p. (MIRA 16:11)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut sa-  
kharnoy svekly. 2. Nauchnyye sotrudniki Vsesoyuznogo  
nauchno-issledovatel'skogo instituta sakharney svekly  
(for all except Grigor'yeva, Ballod).  
(Sugar beets)

SHAPOVALOV, S. (Voronezh)

Problems in the further mechanization of agriculture. Vop. ekon.  
no.1:85-91 Ja '60. (MIRA 13:1)

(Agricultural machinery)

(Voronezh Province--Agriculture--Labor productivity)

SPAFOVALOV, S., mayor

We control a radio transmitter by means of a microwave line. Voen.  
vest. 41 no.9:102-104 S '61. (MIRA 15:1)  
(Radio, Military)

20101

S/018/61/000/001/003/005  
A110/A026

6.1300

AUTHOR: Shapovalov, S., Major

TITLE: Automatically Controlled Radio Stations

PERIODICAL: Voenyy vestnik, 1961, No. 1, pp. 104 - 105

TEXT: A detailed description is given on how to transform a radio telegraphic station to a radio telephonic receiver and transmitter using remote control (see Figure). It serves for the control of the oscillations of the transmitter P-104 (R-104) during telephone and telegraph communications with the radio station, and for reception of transmissions on the microtelephone tube. With this equipment the radio station can automatically be switched over to transmit and/or receive telephone communications. The remote control set consists of a telegraphic transmitter, a TAI-43P (M) [TAI-43R (m)] telephone with a headphone and the TAI-TAI (TAI-TAI) switch. The  $\Pi_1$  ( $P_1$ ) switch being in position TL3, the 2.4 v current goes from the batteries through the channel of the  $\Lambda_1$  ( $L_1$ ) valve and the 400 v current, passing the P-277 (R-277) relay and the primary winding of the Tr-1 (Tr-1) transformer, enters the anode of the valve. 120 v current from P-104 (R-104) enters  $\Gamma_{\Lambda_1}$  ( $G_{\Lambda_1}$ ) and that from the potentiometers  $R_1$  and  $R_3$  goes

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S/018/61/000/001/003/005  
A119/A026

# Automatically Controlled Radio Stations

to the control grid of the valve  $L_1$  closing it. To control the oscillations of the transmitter directly from the radio station, the telegraphic transmitter is switched to  $G_1$  while the radio station is switched to the remote control. The switch "reception-transmitting" is in position "reception". At switching on the telegraphic transmitter, the 120 v current is connected to the mass and the valve  $L_1$  and the power amplifier of the transmitter are opened. The current passing the valve  $L_1$  enters the relay R-277 and switches the station to transmission. The capacity of the condenser  $C_1$  ( $S_1$ ) permits the opening of the relay R-277, 1 sec after stopping the transmission at which moment the radio station switches to reception. For assembling the remote control the following resistances were used:  $R_1 = 500 \text{ kohm}$ ,  $R_2 = 60 \text{ kohm}$ ,  $R_3 = 100 \text{ kohm}$  and the condensers:  $C_1 = 20 \cdot 10^{-6} \mu\text{F}$ ,  $C_2, C_3 = 0.05 \mu\text{F}$ ,  $C_4 = 1 \mu\text{F}$ ,  $C_5 = 0.5 \mu\text{F}$ , a transformer with 2 windings at 2,000 spires of 0.01 diameter. Here is 1 figure.

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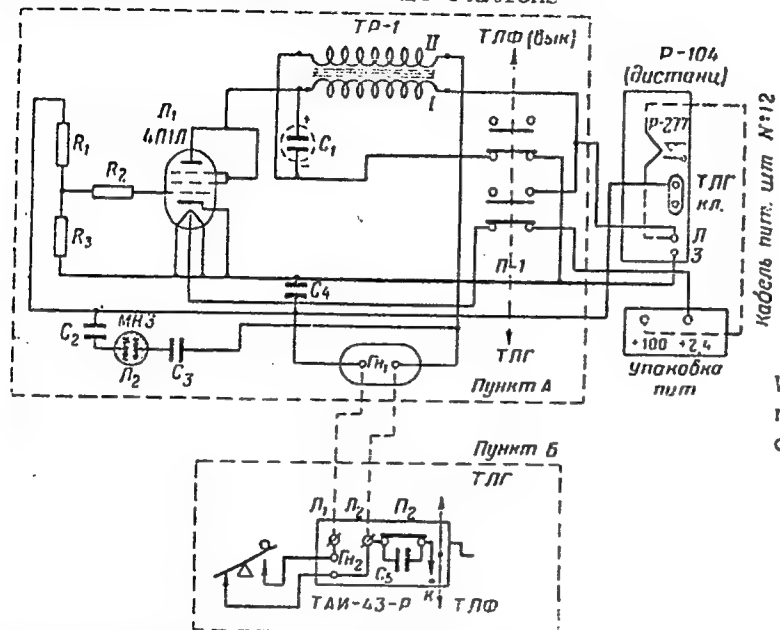


29101

S/018/61/000/001/003/005

A110/A026

# Automatically Controlled Radio Stations



Wiring diagram of auto-  
matically controlled ra-  
dio station

Card 3/3

KAMENSHCHIKOV, I., podpolkovnik; SHAPOVALOV, S., starshiy inzh.-leytenant

Assembly of a bridge from authorized items of issue.

Tyl i snab. Sov. Voor. Sil 21 no.11:68-70 N '61. (MIRA 15:1)

(Military bridges)

SHAPOVALOV, S.A.

"Economics of the production and distribution of motion-  
picture films in the U.S.S.R" by W.A. Kalistratov.

Tekh.kino i telev. 4 no.8:89-92 Ag '60.

(MIRA 13:8)

(Motion pictures--Distribution)

(Motion picture industry)

SHAPOVALOV, S. I.

Improving organization in filling tank with petroleum products.  
Zhel.dor.transp. 42 no.8:79 Ag '60. (MIRA 13:8)

1. Zamestitel' nachal'nika gruzovoy sluzhby Kuybyshevskoy dorogi,  
g.Kuybyshev.

(Petroleum products--Transportation)

SHAROVALOV, S. I.

SHAROVALOV, S. I. — "A Study of the Effects of Modification, Temperature of Heating, and Chemical Composition of Cast Iron on the Structure and Stability of Casting Molds." In Higher Education USSR. Donets Order of Labor Red Banner Industrial Institute named U. S. Krushchev. Stalino, 1955. (Dissertation for the Degree of Candidate in Technical Sciences)

SOURCE: Knizhnaya Leninsk' No 6 1956

5/11/1966, 1966

BRATSKAYA, I. Ye. Professor, BRATSKAYA, I. Ye. inzhener; BUDINSKIY, P. I.,  
inzhener, BRATSKAYA, V. A., inzhener, BELOUSOVA, Ye. Ye.

Project of the design of the charge and chemical composition of iron  
on the life of steel molds. Stat' 16 no. 12:1110-1115 D '56. (MIRA 10:9)

1. Design of the charge and chemical composition of iron  
zavod.

(Founding)

AUTHOR: Braynin, I. Ye. and Shapovalov, S.I. 117

TITLE: Influence of the degree of vacuum and of the temperature of overheating on the structure of iron. (Vliyanie vakuuma i temperatury peregreva na strukturu chuguna.)

PERIODICAL: "Fizika Metallov i Metallovedenie" (Physics of Metals and Metallurgy), 1957, Vol.IV. No.1 (10), pp.115 - 122 (U.S.S.R.)

ABSTRACT: For studying the influence of vacuum and of the overheating temperature of liquid iron on its structure conical specimens weighing 200 g of the following chemical composition were produced by casting from cupola iron: 3.68% C; 1.50% Si; 0.63% Mn; 0.072% P and 0.078% S. The specimens were re-molten in magnesite and graphite crucibles of 36 mm inner dia. and 50 mm height. It was found that at high overheating temperatures of the liquid iron in the magnesite crucibles inside a reducing atmosphere ( $\text{CO} + \text{N}_2$ ) the sulphur content is lowered considerably and the active iron oxides on the surface are reduced. Consequently, the surface tension at the inter-phase boundary liquid melt - graphite increases, which brings about a crystallisation of the graphite in the form of a super-cooled graphite eutectic. Production of globular graphite without modification additions by overheating the melt to 1700 - 1800 °C in a reducing atmosphere indicates that the formation of globular graphite is due to an increase in the surface tension of the inter-phase boundary melt-graphite. An

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Influence of the degree of vacuum and of the temperature of over-heating on the structure of iron. (Cont.)

increase in the surface tension at the boundary liquid melt-graphite as compared to the tension at the boundary liquid melt-austenite leads to the formation around the graphite separations of a continuous austenite shell. Further growth of the graphite separations takes place in a uniform medium and is determined by the character of removal of the iron ions from the crystallisation front of the graphite and this leads to the formation of globular graphite. A decrease in the dimensions of the graphite particles is brought about by an increase in the degree of over-heating of the liquid iron, re-melting in vacuum and reduction of the sulphur content; these factors cause an increase in the surface tension at the boundary liquid melt-graphite and favour crystallisation of the iron under conditions of super-cooling. These phenomena explain the formation of globular graphite without any inoculations in the case of over-heating of iron with traces of sulphur to 1 700 °C in a reducing atmosphere. The authors consider it advisable to carry out tests under shop conditions for producing high strength spheroidal iron with inoculations by over-heating the melt in an electric furnace inside a reducing atmosphere which would lead to a reduction of the oxides dissolved in the iron and sulphur removal. 2 tables, 5 figures, 7 references, 3 of which are Russian.

Donets Industrial Inst. imeni Recd. January 16, 1956.  
N.S. Krushchev. After revision recd. Apr. 4, 1956.



AUTHOR: BRAYNIN, I.Ye., SHAPOVALOV, S.I. 32-6-39/54  
 TITLE: The Selection of Cast Iron Samples. (O Metodike otbora prob chuguna, Russian)  
 PERIODICAL: Zavodskaya Laboratoriya, 1957, Vol 23, Nr 6, pp 750-751 (U.S.S.R.)

ABSTRACT: For the chemical analysis of cast iron samples the latter are taken in a depth of 200-300 mm from the surface. For white pig iron wedge-shaped samples are taken for bleaching. According to the temperature of the samples taken they were divided into three groups: I = at 1220 - 1240°, II = 1245 - 1265° and III = 1270 - 1290°. The chemical composition of all three groups was the same and corresponded to the graphitization constant 5,75. The average depth of bleaching was for the I. group - 5,63 - 5,94 mm, for the II. group - 4,60 - 6,51 mm, and for the III. group 3,90 - 7,06 mm. This shows that with an increase of the temperature of the white pig iron the bleaching depth of the wedge-shaped samples is reduced to 3,9 mm. The second table shows the content of admixtures in cast iron samples at 1240°, 1260° and 1280°, which shows that for the first group 1,54-1,58% silicon, 1,56% for the II. group, and 1,58% silicon

Card 1/2

SOV/128-58-12-10/21

AUTHORS: Braynin, I.Ye., and Shapovalov, S.I.

TITLE: The Effect of Liquid Cast Iron Temperatures on the Depth of Chilling in V-Shaped Specimens (Vliyaniye temperatury zhidkogo chuguna na glubinu otbela klinovidnykh prob)

PERIODICAL: Liteynoye proizvodstvo, 1958, Nr 12, pp 19 - 20 (USSR)

ABSTRACT: To determine the effect of liquid cast-iron temperatures inside the cupola trough on the depth of chilling in V-shaped specimens, two series of tests were carried out by D.S. Kirin, V.A. Kharchenko and G.Ye. Rybalko. Liquid cast iron was taken from the surface of the ladle, and from a depth of 200 - 250 mm, at temperatures ranging from 1,220 to 1,290° C. A comparison of the results proved that the effect of the temperature on chilling was different in both series, i.e. that higher temperatures caused an increased chilling depth. If the cast iron is taken from a certain depth of the ladle, the depth of chilling in V-shaped spe-

Card 1/2

SOV/128-58-12-10/21

The Effect of Liquid Cast Iron Temperatures on the Depth of Chilling in  
V-Shaped Specimens

cimens increases with higher temperatures of the cast iron  
in the trough. There are 2 tables, 1 diagram, 1 photo and  
3 references, 1 of which is German and 2 Soviet.

Card 2/2

SOV/163-59-2-14/46

18(3)

AUTHORS:

Braynin, I. Ye., Shapovalov, S. I.

TITLE:

Influence of Magnesium on the Boundary Angle of the  
Moistening of Graphite by Liquid Iron (Vliyaniye magniya na  
krayevoy ugol smachivaniya grafita zhidkim chugunom)

PERIODICAL:

Nauchnyye doklady vysshey shkoly. Metallurgiya, 1959, Nr 2,  
pp 74-77 (USSR)

ABSTRACT:

The mechanism of the influence of magnesium on the formation of globular graphite has not yet been fully clarified. A few years ago, it was found (Ref 6) that the surface tension of the liquid magnesium-containing cast iron is by 40-50% higher than that of ordinary cast iron. There are no publication references on the influence mentioned in the title. The experiment was carried out with samples of cast iron which contained 0.06% of magnesium. The samples were exposed to a temperature of 1350° for various periods of time; cylinders 7 mm high with a diameter of 7 mm were then cast of them. They were heated over the melting point on an exactly horizontal graphite plate, and then cooled down rapidly. A table shows that after a long action of the temperature of 1350° the magnesium content was reduced due to oxidation, and the boundary

S.

Card 2,

Card 1/2

BRAYNIN, I.Ye., prof.; SHAPOVALOV, S.I., kand.tekhn.nauk.

Characteristics of floc formation in hypereutectoid steel.  
Izv.vys.ucheb.zav.; chern.met. 2 no.6:81-82 Je '59. (MIRA 12:1)

1. Donetskii industrial'nyy institut. Rekomendovano kafedroy  
metallovedeniya i termoobrabotki Donetskogo industrial'nogo  
instituta.

(Steel--Metallography)

BRAYNIN, I.Ye. (Stalino); SMOLYANITSKIY, Ya.A. (Stalino); SHAPOVALOV, S.I.  
(Stalino)

Effect of artificial aging on the graphitization of white cast iron.  
Izv. AN SSSR. Otd. tekhn. nauk. Met. i topl. no.1:49-54 Ja-7 '61.  
(MIRA 14:2)

(Cast iron—Metallurgy)

(Annealing of)

SHVARTSER, A.Ya., inzh.; SHAPOVALOV, S.I., kand.tekhn.nauk; LUGOVAYA, G.V.,  
inzh.; GLAZUNOV, F.A., inzh.; TKACHENKO, V.A., inzh.; MOZNAIM,  
G.I., inzh.

Electric slag hard facing of beaters in impact-action crushing  
machines. Svar. proizv. no.3:22-25 Mr '63. (MIRA 16:3)

1. Donetskij politekhnicheskij institut (for Lugovaya).
2. Yasinovatskiy mashinostroitel'nyy zavod (for Moznaim).  
(Hard facing) (Crushing machines)

BRAYNIN, I. Ya.; SMOLYANITSKIY, Ya. A.; SHAPOVALOV, S. I.

Effect of preliminary heat treatment on the graphitization  
process of white cast iron. Izv. vys. ucheb. zav.; chern. met.  
7 no. 5:130-134 '64. (MIRA 17:5)

1. Donetskii politekhnicheskii institut.



SHAIQVALOV, S.I., dotsent, kand. tekhn. nauk; STYCHINSKIY, I.P., inzh.;  
ALIMOV, V.I., inzh.

Effect of patenting wire rod from the rolling temperature on the  
mechanical properties of wire. Stal' 25 no.6:570-572 Je '65.  
(MIRA 18:6)

1. Donetskii politekhnicheskii institut i Makeyevskiy metallurgi-  
cheskiy zavod.

SHAPCALOV, S.I., kand. tekhn. nauk; GOLITSAREVSKIY, D.B., inzh.; SHVARTSER,  
A.Ya., kand. tekhn. nauk

Preventing the separation of the facing layer from the base  
metal in electric slag hard facing of high-manganese or low-  
carbon steels. Svar. proizvod. no.6:3-5 33 '65. (CIA 12:8)

- 1. Donetskii politekhnicheskii institut.

SHAPOVALOV, S.L., vrach

Faulty vision and glasses. Zdorov'e 6 no.10:18-19 0 '60.

(MIRA 13:9)

(VISION)

(SPECTACLES)

SOV/124-57-5-6013

Translation from: Referativnyy zhurnal. Mekhanika, 1957. Nr 5, p 144 (USSR)

AUTHOR: Shapovalov, S. M.

TITLE      Analysis of Frame Structures by the Moment-foci (Fixed-point)  
Ordinate Method (Raschet ramnykh konstruktsiy metodom moment-  
nykh fokusnykh ordinat)

PERIODICAL: Nauch. zap. L'vovsk. politekhn. in-ta, 1955, Nr 29, pp 22-49

ABSTRACT: The author proposes a graphic method for analyzing frames, a method whereby the moments acting upon the frame joints serve as the unknowns and a frame clamped at the joints serves as the reference system. The analysis procedure consists in determining first the moment foci (fixed points) and then the moment-foci ordinates.

A. A. Popov

Card 1/1

SOV/124-57-8-9525

Translation from: Referativnyy zhurnal. Mekhanika, 1957, Nr 8. p 135 (USSR)

AUTHOR: Shapovalov, S. M.

TITLE: Calculating the Stability of Framed Structures by the Moment-foci-  
ordinate (Fixed-point) Method (Raschet ustoychivoy prochnosti  
ramnykh konstruktsey metodom momentnykh fokusnykh ordinat)

PERIODICAL: Nauchn. zap. L'vovsk. politekhn. in-t, 1956, Nr 41, pp 17-34

ABSTRACT: Bibliographic entry

Card 1/1

KURYLLO, Adam, prof. dr inż.; MAMONTOW, Mikołaj, doc. knt; SZAPOWALOW,  
Sergiusz, doc. knt

Prestressed shell construction of reinforced prefabricated concrete  
elements as roofing for industrial buildings. Inż i bud 20  
no.5:156-159 My '63.

1. Politechnika, Lwow.

SHAPOVALOV, T. I.

35271. Opyt primeneniya betononasosa pri postroyke zhelzobetonного otstoynika.  
Trudy IV vsesoyuz. Konf-tsii po beton i zhetezobeton konstruktsiyam. Ch. I.  
M.-L., 1949, S. 324-28

SO: Letopis' Zhurnal'nykh Statey. Vol. 34, 1949 Moskva

BURYKH, Ye.B; KOLOBOV, V.M.; SKOTNIKOV, Yu.A.; TIKHONOVICH, S.S.;  
SHAPOVALOV: T.I.; KONOVALOVA, K.A., redaktor; RAZINKOV, P.,  
redaktor; LIL'YE, A., tekhnicheskii redaktor

[Memorable places in Moscow province; brief guide] Pamiatnye mesta  
Moskovskoy oblasti. Kratkii putevoditel'. Moskva, Izd-vo "Moskovskii  
rabochii", 1954. 352 p. (MLRA 7:10)

1. Direktor Moskovskogo oblastnogo krayevedcheskogo muzeya (for  
Konovalova)  
(Moscow Province--Description and travel)



AGAPOV, D.S.; ARTIBILOV, B.M.; VIKTOROV, A.M.; GINTS, A.N.; GOR'KOV, A.V.; GUSYATINSKIY, M.A.; KARPOV, A.S.; KOLOT, I.I.; KOMAREVSKIY, V.T.; KORYAGIN, A.I.; KRIVSKIY, M.N.; KRAYNOV, A.G.; NESTEROVA, I.N.; OBMS, I.S., kandidat tekhnicheskikh nauk; SOSNOVIKOV, K.S.; SUKHOTSKIY, S.F.; CHLENOV, G.O.; YUSOV, S.K.; ZHUK, S.Ya., akademik, glavnyy redaktor; KOSTROV, I.N., redaktor; BARONENKOV, A.V., professor, doktor tekhnicheskikh nauk, redaktor; KIRZHNER, D.M., professor, doktor tekhnicheskikh nauk, redaktor; SHESHKO, Ye.F., professor, doktor tekhnicheskikh nauk, redaktor; AVERIN, N.D., inzhener, redaktor [deceased]; GOR'KOV, A.V., inzhener, redaktor; KOMAREVSKIY, V.T., inzhener, redaktor; ROGOVSKIY, L.V., inzhener, redaktor; SHAPOVALOV, T.I., inzhener, redaktor; RUSSO, G.A., kandidat tekhnicheskikh nauk, redaktor; FILIMONOV, N.A., inzhener, redaktor; VOLKOV, L.N., inzhener, redaktor; GRISHIN, M.M., professor, doktor tekhnicheskikh nauk, redaktor; ZHURIN, V.D., professor, doktor tekhnicheskikh nauk, redaktor; LIKHACHEV, V.P., inzhener, redaktor; MEDVEDEV, V.M., kandidat tekhnicheskikh nauk, redaktor; MIKHAYLOV, A.V., kandidat tekhnicheskikh nauk, redaktor; PETROV, G.D., inzhener, redaktor; RAZIN, N.V., redaktor; SOBOLEV, V.P., inzhener, redaktor; PERINGER, B.P., inzhener, redaktor; TSYPLAKOV, V.D., inzhener, redaktor; ISAYEV, N.V., redaktor; TISTROVA, O.N., redaktor; SKVORTSOV, I.M., tekhnicheskii redaktor

[The Volga-Don Canal; technical report on the construction of the Volga-Don Canal, the TSimlyanskaya hydro development and irrigation works (1949-1952); in five volumes] Volgo-Don; tekhnicheskii otchet  
(continued on next card)

AGAPOV, D.S. --- (continued) Card 2.

o stroitel'stve Volgo-Donskogo sudokhodnogo kanala imeni V.I.Lenina.  
TSimlianskogo gidrouzla i orositel'nykh sooruzhenii (1949-1952) v  
piati tomakh. Glav.red. S.IA. Zhuk. Moskva, Gos.energ. izd-vo.  
Vol.5. [Quarry management] Kar'ernoie khoziaistvo. Red.toma I.N.  
Kostrov. 1956. 172 p. (MLRA 10:4)

1. Russia (1923- U.S.S.R.) Ministerstvo elektrostantsii. Byuro  
tekhnicheskogo otcheta o stroitel'stve Volgo-Dona. 2. Deystvitel'nyy  
cheln Akademii stroitel'stva, i arkhitektury SSSR (for Razin)  
(Quarries and quarrying)

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B102/B104

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AUTHORS: Kozlov, A. Yu. and Shapovalov, V.

TITLE: Effect of annealing on the repolarization of barium titanate monocrystals

PERIODICAL: Fizika tverdogo tela, v. 4, no. 3, 1962, 650 - 652

TEXT: The authors studied the change in shape of the dielectric hysteresis of  $\text{BaTiO}_3$  single crystals caused by annealing at  $\sim 1200^\circ\text{C}$ . The measurements were made in the range 50 cps - 15 kcps with  $\sim 0.1$  mm thick crystal plates. Part of the samples had not been heated before, the others had been subjected to 1 - 2 hrs heating at  $1250^\circ\text{C}$  in a sinter furnace. A strong alternating field ( $E \sim 5$  kv/cm) heated the sample and changed the shape of the loop. Annealed samples which show a completely distorted loop are affected most by the alternating field: after the field has been applied for some seconds the loop becomes normal and spontaneous polarization  $P_s$  rises.  $P_s(t)$  at 60 cps shows a peak at about  $120^\circ\text{C}$ , above this temperature  $P_s$  vanishes abruptly. For samples heated to above the Curie point ( $140^\circ\text{C}$ ) Card 1/2

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the shape of the loop depends on the cooling rate; e. g. with 1 deg/min a double loop appears. When cooling slowly down to the Curie point and then cooling rapidly, a triple loop may arise. Holding and increasing the temperature increased the polarization which indicates that not all crystal domains take part in repolarization. Multiple loops can be explained by Abe's model (J. Phys. Soc. Japan, 14, 633, 1959; 15, 795, 1960). To clarify the effect of the atmosphere, experiments were made with samples heated in  $O_2$  at 1250°C and in vacuum at 900°C. In the latter case a double loop appeared, not observed in the former case. A constant electrical field changes the kind of loop distortion. Ye. V. Sinyakov is thanked for discussions. There are 5 figures and 5 references: 3 Soviet and 2 non-Soviet.

ASSOCIATION: Dnepropetrovskiy gosudarstvennyy universitet (Dnepropetrovsk State University)

SUBMITTED: October 21, 1961

Card 2/2

PRADOSHCHUK, P., ; DERKACH, L.; ZOLOZAYEVA, L.; SHARIPOVA, T., starshiy  
dvornik; SHAPOVALOV, V.; LEN'KIN, M., tehnik-smotritel'

Our Apartment House. Zhil.-kom. Khoz. ll no. 1:4-6 '61.

(MIA 14:2)

1. Upravlyayushchiy Sovet Devyatogo domoupravleniya, g.  
Sevastopol' (for Pradoshchuk). 2. Predsedatel' roditel'skogo  
komiteta Devyatogo domoupravleniya, g. Sevastopol' (for Derkach,  
L.). 3. Predsedatel' domovogo komiteta Devyatogo domoupravleniya,  
g. Sevastopol' (for Zolozayeva). 4. Devyatoye domoupravleniye,  
g. Sevastopol' (for Shapovalov, Sharipova, Len'kin).  
(Sevastopol'--Apartment houses)

KUDZIN, A.Yu.; SHAPOVALOV, V.

Effect of annealing on repolarization of barium titanate monocrystals.  
Fiz. tver. tela 4 no.3:650-652 '62. (MIRA 15:4)

1. Dnepropetrovskiy gosudarstvennyy universitet.  
(Barium titanate crystals) (Hysteresis)

SHAPOVALOV, V.A.

Device for the lubrication of molds. Stal' 7 no.1:76 '47.  
(Foundry machinery and supplies) (MLRA 9:1)

ARUTYUNOV, V.O., prof. doktor tekhn.nauk; SHAPOVALOV, V.D., kand.  
tekhn.nauk

Standard and quality. Mashinostroitel' no.11:8-9 '65.  
(MIRA 18:11)



SHAPOVALOV, V.F.

How we provide labor safety for railroad workers. Put' i put.  
khoz. no.12:22-23 D '59. (MIRA 13:4)

1. Glavnyy tekhnicheskiy inspektor Dorozhnogo komiteta  
professional'nogo soyuza rabotnikov zheleznodorozhnogo transporta  
Omsk.

(Railroads--Safety measures)

SHAPOVALOV, V.F., inzh.; RABINOVICH, N.G., inzh.

Automation of cutting machines. Mekh.i avtom.proizv.  
16 no.10:1-4 0 '62. (MIRA 15:11)  
(Cutting machines)  
(Automation)

AVTONOMOV, V.A., inzh.; RABINOVICH, N.G., inzh.; SHAPOVALOV, V.F., inzh.

Installing the LA730 semiautomatic multicut lathe in an  
automatic production line. Mekh. i avtom. proizvod. 17 no.8:  
1-3 Ag '63. (MIRA 16:10)

SHAPOVALOV, V.F. ; RABINOVICH, N.G.; INOZEMTSEV, G.G.; AVTONOMOV, V.A.

Completely automatic area for machining axle-type parts. Biul.tekh.-  
ekon.inform.Gos.nauch.-issl.inst.nauch. i tekh.inform. 16 no.11:37-  
40 '63. (MIRA 16:11)